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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,221	03/24/2006	Stephan Simon	10191/4260	5010

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EXAMINER	
WOLDEMARIAM, AKILILU K	

ART UNIT	PAPER NUMBER
2624	

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11/13/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	**Application No.**	**Applicant(s)**	
	10/573,221	SIMON ET AL.	
	Examiner	**Art Unit**	
	AKLILU k. WOLDEMARIAM	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/10/2009, 05/27/2008, 03/24/2006*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see page 5 filed 07/10/2009, with respect to claims 11 to 21 were rejected under 35 U.S.C. § 102(e) as assertedly anticipated by U.S. Patent Application Publication No. 2006/0041381 ("the Simon reference"). It is respectfully submitted that the Simon reference does not anticipate any of claims 11 to 21, and the rejection should be withdrawn, for at least the following reasons. The Simon reference does not constitute prior art against the present application which has a priority date of October 2, 2003. In this regard, the present application claims priority to German Patent Application No. 103 45 948.0. A claim of priority to German Patent Application No. 103 45 948.0 was made, inter alia, in the "Combined Declaration and Power of Attorney" submitted on March 24, 2006, and the Provisional application. The arguments have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of Schneiderman (U.S. Patent number 7, 194, 114 B2) in view of Sutton et al., "Sutton" (U.S. Publication number 2003/0005030 A1).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 11-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneiderman (U.S. Patent number 7, 194, 114 B2) in view of Sutton et al., "Sutton" (U.S. Publication number 2003/0005030 A1).

Regarding claims 11, *Schneiderman discloses* a method for evaluation and stabilization over time of classification results from a classification method which proceeds in computer-assisted fashion *(see item 34, fig.4B, classifier and fig.7, 2 classifiers trained for faces and 8 classifiers trained for cars),* the method comprising:

repeatedly classifying the objects, by a computer processor, using specific quality parameters for each object class (*see col.2, lines 63-65, for determining a classifier (or detector) used by an object detection program where the classifier is decomposed into a set of sub-classifiers and col.3, lines 43-48, for each of a plurality of view-based classifiers, computing a transform of a digitized version of the 2D image containing a representation of an object, wherein the transform is a representation of the spatial frequency content of the image as a function of position in the image and repeatedly referred to frequency);*

increasing, by the processor, a value of a confidence parameter calculated from the quality parameters if a subsequent classification confirms a result of a previous classification (*see item 124, fig.13, if i>1 then evaluate classifier (i-1) on training data referred to confidence parameter and item 160, fig.16, increment and col.26, lines 14-19, the threshold for the total log-likelihood at each stage may be predetermined by a process of evaluating the current stages of the*

classifier on the cross-validation images. Block 224 may set this threshold to match specified performance metric such as correct detection of 95% of the labeled instance of the object).

decreasing, by the processor, the value of the confidence parameter if a subsequent classification does not confirm the result of a previous classification (*see item 124, fig.13, if i>1 then evaluate classifier (i-1) on training data referred to confidence parameter and item 160, fig.16, increment and col.26, lines 14-19, the threshold for the total log-likelihood at each stage may be predetermined by a process of evaluating the current stages of the classifier on the cross-validation images. Block 224 may set this threshold to match specified performance metric such as correct detection of 95% of the labeled instance of the object and if the object classified by confidence increase order it would been obvious to ordinary skill in the art the object classified decrease order)*; and

generating, by the processor, a final classification result including the confidence parameters that have been increased or decreased in value *(see item 124, fig.13, if i>1 then evaluate classifier (i-1) on training data referred to confidence parameter and item 160, fig.16, increment and col.20, line 47-55 and col.21, lines 24-33 and col.26, lines 14-19, the threshold for the total log-likelihood at each stage may be predetermined by a process of evaluating the current stages of the classifier on the cross-validation images. Block 224 may set this threshold to match specified performance metric such as correct detection of 95% of the labeled instance of the object).*

Schneiderman does not sensing, by sensors, objects to be classified using sensors over a period of time.

However, Sutton sensing, by sensors, objects to be classified using sensors over a period of time *(see paragraph [0006] the devices may be mobile, in the form of vehicles with sensors. Classify a number of sources or targets concurrently).*

It would been obvious to ordinary skill in the art at the time when invention was made to use Sutton's sensing, by sensors, objects to be classified using sensors over a period of time in Scheiderman's a method for evaluation and stabilization over time of classification results from a classification method which proceeds in computer-assisted fashion because it will allow to show mode 1 classification performance in terms of completion time was on average ten times faster, *[Sutton, paragraph [0148]].*

Regarding claim 12, *Scheiderman discloses* the method as recited in claim 11, wherein the increasing of the value is performed as a function of an absolute quality of the confidence parameter (*see item 124, fig.13, if i>1 then evaluate classifier (i-1) on training data referred to confidence parameter and item 160, fig.16, increment and col.26, lines 14-19, the threshold for the total log-likelihood at each stage may be predetermined by a process of evaluating the current stages of the classifier on the cross-validation images. Block 224 may set this threshold to match specified performance metric such as correct detection of 95% of the labeled instance of the object).*

Regarding claim 13, *Scheiderman discloses* the method as recited in claim 11, wherein the decreasing in the value is performed as a function of an absolute quality of the confidence parameter (*see item 124, fig.13, if i>1 then evaluate classifier (i-1) on training data referred to confidence parameter and item 160, fig.16, increment and col.26, lines 14-19, the threshold for the total log-likelihood at each stage may be predetermined by a process of evaluating the current stages of the classifier on the cross-validation images. Block 224 may set this threshold to match specified performance metric such as correct detection of 95% of the labeled instance of the object).*

Regarding claim 14, *Scheiderman discloses* the method as recited in claim 11, wherein an absolute quality of respective individual results of the classification method is included in at least one of the increase in the value of the respective confidence parameters, and the decrease in the value of the respective confidence parameter, in weighted fashion with reference to individual object classes (*see item 124, fig.13, if i>1 then evaluate classifier (i-1) on training data referred to confidence parameter and item 160, fig.16, increment and col.26, lines 14-19, the threshold for the total log-likelihood at each stage may be predetermined by a process of evaluating the current stages of the classifier on the cross-validation images. Block 224 may set this threshold to match specified performance metric such as correct detection of 95% of the labeled instance of the object).*

Regarding claim 15, *Scheiderman discloses* the method as recited in claim 11, further comprising: limiting a permissible value range for the confidence

parameters increased or decreased in value *(see fig.13, classification and col.21, lines 24-41 ranges 15 to 20)*

Regarding claim 16, *Scheiderman discloses* the method as recited in claim 11, further comprising: evaluative analyzing the calculated confidence parameter to determine a final, detailed classification result *(see col.26, lines 14-19, the threshold for the total log-likelihood at each stage may be predetermined by a process of evaluating the current stages of the classifier on the cross-validation images. Block 224 may set this threshold to match specified performance metric such as correct detection of 95% of the labeled instance of the object).*

Regarding claim 17, *Scheiderman discloses* the method as recited in claim 16, further comprising: evaluating an alternation of the classification results between specific object classes as a classification into a higher-order class than those object classes (*see col.20, lines 49-54, the value of K can be incremented by one and col.21, lines 24-30 a classifier).*

Regarding claim 18, *Scheiderman discloses* the method as recited in claim 16, further comprising: evaluating an alternation of the classification results between dissimilar object classes as a rejection of a classification of the object *(see fig.7, 2 classifiers trained for faces and 8 classifiers for cars).*

Regarding claim 19, *Scheiderman discloses* the method as recited in claim 11, further comprising: evaluating classification results of the classification method for objects in surroundings of a vehicle *(see fig.7, 8 classifiers trained for cars).*

Regarding claim 20, *Schneiderman discloses* a computer-assisted vehicle information system, comprising:

repeatedly classifying the objects using specific quality parameters for each object class (*see col.2, lines 63-65, for determining a classifier (or detector) used by an object detection program where the classifier is decomposed into a set of sub-classifiers and col.3, lines 43-48, for each of a plurality of view-based classifiers, computing a transform of a digitized version of the 2D image containing a representation of an object, wherein the transform is a representation of the spatial frequency content of the image as a function of position in the image and repeatedly referred to frequency);*

increasing a value of a confidence parameter calculated from the quality parameters if a subsequent classification confirms a result of a previous classification (*see item 124, fig.13, if i>1 then evaluate classifier (i-1) on training data referred to confidence parameter and item 160, fig.16, increment and col.26, lines 14-19, the threshold for the total log-likelihood at each stage may be predetermined by a process of evaluating the current stages of the classifier on the cross-validation images. Block 224 may set this threshold to match specified performance metric such as correct detection of 95% of the labeled instance of the object)*;

decreasing the value of the confidence parameter if a subsequent classification does not confirm the result of a previous classification (*see item 124, fig.13, if i>1 then evaluate classifier (i-1) on training data referred to confidence parameter and item 160, fig.16, increment and col.26, lines 14-19,*

the threshold for the total log-likelihood at each stage may be predetermined by a process of evaluating the current stages of the classifier on the cross-validation images. Block 224 may set this threshold to match specified performance metric such as correct detection of 95% of the labeled instance of the object and if the object classified by confidence increase order it would been obvious to ordinary skill in the art the object classified decrease order).

generating a final classification result including the confidence parameters that have been increased or decreased in value *(see item 124, fig.13, if i>1 then evaluate classifier (i-1) on training data referred to confidence parameter and item 160, fig.16, increment and col.20, line 47-55 and col.21, lines 24-33 and col.26, lines 14-19, the threshold for the total log-likelihood at each stage may be predetermined by a process of evaluating the current stages of the classifier on the cross-validation images. Block 224 may set this threshold to match specified performance metric such as correct detection of 95% of the labeled instance of the object).*

Scheiderman does not disclose connection interfaces to vehicle sensor devices for sensing objects in surroundings of a vehicle; and

a control circuit configured to analyze and classify the sensed objects the control circuit configured to perform the following:

sensing objects to be classified using sensors over a period of time.

However, Sutton discloses connection interfaces to vehicle sensor devices for sensing objects in surroundings of a vehicle *(see paragraph [0006] the devices*

may be mobile, in the form of vehicles with sensors. Classify a number of sources or targets concurrently); and

a control circuit configured to analyze (*see item 500, fig.6, control)* and classify the sensed objects the control circuit configured to perform *(see paragraph [0006] the devices may be mobile, in the form of vehicles with sensors. Classify a number of sources or targets concurrently and claim 1, a sensor unit adapted for sensing signals due to the objects)* the following:

sensing objects to be classified using sensors over a period of time *(see paragraph [0006] the devices may be mobile, in the form of vehicles with sensors. Classify a number of sources or targets concurrently).*

It would been obvious to ordinary skill in the art at the time when invention was made to use Sutton's sensing, by sensors, objects to be classified using sensors over a period of time in Scheiderman's a method for evaluation and stabilization over time of classification results from a classification method which proceeds in computer-assisted fashion because it will allow to show mode 1 classification performance in terms of completion time was on average ten times faster, *[Sutton, paragraph [0148]].*

Regarding claim 21, *Scheiderman discloses* the vehicle information system as recited in claim 20, further comprising:

interfaces connected to actuator devices on the vehicle *(see fig.7, 8 classifiers trained for cars).*

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AKLILU k. WOLDEMARIAM whose telephone number is (571)270-3247. The examiner can normally be reached on Monday-Friday 8:00 a.m-5:00 p.m EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bali Vikkram can be reached on 571-272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DANIEL G MARIAM/
Primary Examiner, Art Unit 2624

/A. k. W./
Patent Examiner, Art Unit 2624
11/06/2009